

### AMENDMENTS TO CLAIMS

1. (Currently amended) A capillary array comprising[[:]]:  
a plurality of capillaries for holding a separation medium for separating a sample;  
a detecting portion for maintaining alignment of the capillaries;  
a capillary head for bundling and holding capillaries to one end of the capillaries; and  
a load header including an insulated holder, a conductive connection plate and an  
insulating member and for supporting tubular electrodes, wherein  
the insulated holder is provided at sample injection end portions of the capillaries;  
the tubular electrodes are fixed to the insulated holder, to allow insertion of sample  
injection end portions of capillaries;  
the conductive connection plate has bores for insertion of the tubular electrodes,  
supported by the insulated holder and electrically connects the tubular electrodes with  
each other;  
the insulating member ~~covers~~ and the insulated holder surround a conductive portion  
including a connecting portion between the conductive connection plate and the tubular  
electrodes in collaboration with the insulating holder and electrically insulates the connecting  
portion from the other portions; and  
the insulated holder, the insulating member, the conductive connection plate and the  
tubular electrodes are substantially closely arranged ~~without~~ so as to make no gaps among these  
elements around the tubular electrodes in the load header.

2. (Previously presented) The capillary array according to claim 1, wherein a filling  
material is applied to a gap between the insulated holder and conductive connection plate and/or  
to a gap between the conductive connection plate and insulating member.

3. (Previously presented) The capillary array according to claim 2, wherein the  
filling material includes inorganic powders or metal powders and has higher heat conductance  
than the air.

4. (Previously presented) The capillary array according to claim 3, wherein a conductive resin is substituted for the conductive connection plate within the load header to electrically connect the tubular electrodes with each other.

5. (Currently amended) An electrophoresis apparatus comprising[[:]]:  
a capillary array comprising[[:]]:  
a plurality of capillaries for holding a separation medium for separating a fluorescence labeled sample;  
a detecting portion for maintaining alignment of the capillaries;  
a capillary head for bundling and holding capillaries to one end of the capillaries;  
a load header including an insulated holder, a conductive connection plate and an insulating member and for supporting tubular electrodes, wherein  
the insulated holder is provided at sample injection end portions of the capillaries;  
the tubular electrodes are fixed to the insulated holder, to allow insertion of sample injection end portions of capillaries;  
the conductive connection plate has bores for insertion of the tubular electrodes, supported by the insulated holder and electrically connects the tubular electrodes with each other;  
the insulating member ~~covers~~ and the insulated holder surround a conductive portion including a connecting portion between the conductive connection plate and the tubular electrodes in collaboration with the insulating holder and electrically insulates the connecting portion from the other portions; and  
the insulated holder, the insulating member, the conductive connection plate and the tubular electrodes are substantially closely arranged ~~without~~ so as to make no gaps among these elements around the tubular electrodes in the load header.

6. (Previously presented) The electrophoresis apparatus according to claim 5, wherein a filling material is applied to a gap between the insulated holder and conductive connection plate and/or to a gap between the conductive connection plate and insulating member.

7. (Previously presented) The electrophoresis apparatus according to claim 6, wherein the filling material includes inorganic powders or metal powders and has higher heat conductance than the air.

8. (Previously presented) The electrophoresis apparatus according to claim 7, wherein a conductive resin is substituted for the conductive connection plate within the load header to electrically connect the tubular electrodes with each other.